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The short- and intermediate-range structures of a glass are tunable through high-pressure treatment and may thus give rise to properties unattainable under ambient pressure. Moreover, chemical strengthening of glass through K^+-for-Na^+ ion exchange can be used to improve the damage resistance of glasses by introducing a compressive stress in the glass surface. However, the interplay among isostatic compression, pressure-induced changes in alkali diffusivity, compressive stress generated through ion exchange, and the resulting mechanical properties are poorly understood. In this work, we employ a specially designed gas pressure chamber to compress bulk glass samples isostatically up to 1 GPa at elevated temperature before or after the ion exchange treatment of an industrial sodium-magnesium aluminosilicate glass. Compression after the ion exchange treatment changes the shape of the potassium-sodium diffusion profiles and significantly increases glass hardness. Compression of the samples prior to ion exchange leads to a decreased Na^+-K^+ inter-diffusivity and increased compressive stress, and reveals a strong dependence of glass hardness on the compression temperature. We discuss these results in terms of the underlying structural changes in network-modifier environments and overall network densification.